



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

PATENT

In re Application of:

HUYBRECHTS ET AL.

CASE NO: FA1105 US NA

SERIAL NO: 10/759,945

GROUP ART UNIT: 1724

FILED: JANUARY 16, 2004

EXAMINER: I. WU

FOR: TWO-COMPONENT COATING  
COMPOSITIONS

**DECLARATION UNDER 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Jos Huybrechts, declare that:

I am a citizen of the Belgium and reside at Pater Voordeckerstraat 15,  
Turnhout, 2300, Belgium.

I am an employee of E.I. du Pont de Nemours and Company ("DuPont").

I received a Ph.D. in Macromolecular and Organic Chemistry from the  
University Leuven, an M.S. in Macromolecular and Organic Chemistry from the  
University Leuven, and a B.S. in Macromolecular and Organic Chemistry from the  
University Leuven.

I have worked for DuPont from 1978 to the present in DuPont  
Performance Coatings.

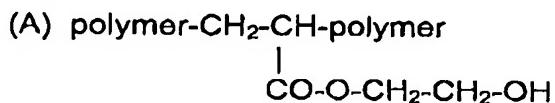
I am a technical expert in paint coatings and I am an inventor of the above  
identified application.

The following are my remarks:

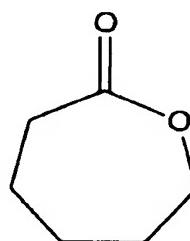
1. The January 31, 2007, Office Action indicated that Claims 1-13 were rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Stengel et al. (U.S. Patent No. 6,458,885).

2. In the May 19, 2006, Final Office Action, Examiner's position, which position was maintained in the January 31, 2007, Non-Final Office Action, was that, "even though the prior art product was made by a different process . . . [.] Stengel's et al (US006458885B1) coating composition is substantially identical to that of the applicants'."
3. The present Invention provides hydroxy-functional (meth)acrylic copolymers containing (1) hydroxy-functional monomers (e.g., hydroxyalkyl (meth)acrylates), (2) cycloaliphatic esters of (meth)acrylic acid, (3) other unsaturated monomers, and (4) at least one lactone; wherein, first, monomers (1) to (3) are polymerized resulting in a hydroxy-functional copolymer and then the hydroxy groups of that copolymer are modified by reaction with the lactone, resulting in a lactone-modified acrylic copolymer (see pg. 8, lines 14-22, of Applicants' specification).

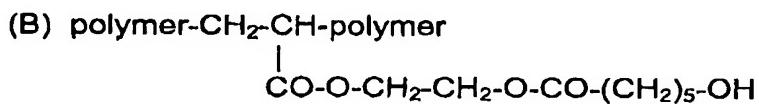
4. In the present invention, the modification of the hydroxy groups of the acrylic copolymer is achieved by reacting the hydroxy group of the unit in the copolymer resulting from the hydroxy monomer, for example a hydroxy ethylacrylate structure as shown in unit (A) below:



with a lactone (ring), for example  $\epsilon$ -caprolactone, as shown below

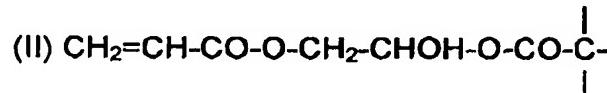
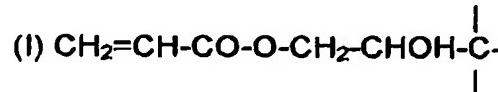


which leads to the following exemplary structure (B) in the copolymer:



In this reaction, a hydroxy alkyl ester group is again formed in the terminal position.

5. The structure of the acrylic copolymer in Stengel *et al.* is (a) a monomer according to structure I or II:



wherein the terminal branched alkyl group has at least seven carbon atoms (preferred structure (a) is the (meth)acrylic acid and Cardura E reaction product (II)); (b) hydroxy alkyl (meth)acrylates; and (c) other monomers, including cycloalkyl (meth)acrylates.

6. Monomers (1) of our invention are disclosed in Stengel *et al.* Monomers (2) of our invention are also disclosed in Stengel *et al.*, though only in a list of possible unsaturated monomers. Lactone (4) of our invention, however, is not used to prepare the acrylic copolymer of Stengel *et al.*, that is, the hydroxy groups of the Stengel *et al.* copolymer are not modified with lactones.

7. The resulting structural unit (B), above, of our invention is therefore not present in the acrylic copolymer of Stengel *et al.* Stengel *et al.* therefore does not disclose the lactone-modified acrylic copolymers of our claimed invention. Hence, the acrylic copolymer of the present invention differs from those of Stengel *et al.*

8. The acrylic copolymer of the present invention also differs from the polycaprolactone-type polyesters that can be used in the clear coats of Stengel *et al.* Those polyesters of Stengel *et al.* are reaction products formed from reaction of a cyclic lactone with a polyol or a hydroxy acid, and the resulting polyesters are separate reaction products that are not attached to the backbone of an acrylic copolymer, as in the present invention, which are attached to polymer- $\text{CH}_2-\text{CH}$ -polymer of structure (B), above, of our invention.

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9. I therefore conclude that the Examiner's position in the May 19, 2006 Final Office Action and January 31, 2007 Non-Final Office Action is incorrect because our resulting product is structurally distinct from the resulting product of Stengel *et al.*.

10. I declare that all statements made herein are either based on my own knowledge and are true, or if based on information and belief are believed to be true. I also declare that all statements were made with knowledge that willful false statements, and the like, are punishable by either fine, or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and any such willful false statements may jeopardize the validity of either the patent application, or any patent issuing thereon.

By:

Jos Huybrechts

Dated: 23 March 2007